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(54) **Physcomitrella patents genes which improve stress tolerance**

(57) Polynucleotides are disclosed which are capable of enhancing growth, yield under water-limited conditions, and/or increased tolerance to an environmental stress of a plant transformed to contain such polynucleotides. Also provided are methods of using such polynucleotides.

cleotides and transgenic plants and agricultural products, including seeds, containing such polynucleotides as transgenes.

EP 2 537 938 A3



EUROPEAN SEARCH REPORT

Application Number
EP 12 17 3345

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2004/031072 A1 (LA ROSA THOMAS J [US] ET AL) 12 February 2004 (2004-02-12)	1	INV. C12N15/82
A	* abstract * * paragraph [0021] * * claims 1-3 * * sequence 204261 *	2-16	

X	WO 2005/027631 A2 (AVESTHA GENGRAINE TECH PVT LTD [IN]; PATELL VILLOO MORAWALA [IN]) 31 March 2005 (2005-03-31)	1	TECHNICAL FIELDS SEARCHED (IPC) C12N
A	* abstract * * sequence 13 * * claim 14 *	2-16	

A	WANG ZENG-LAN ET AL: "Expressed sequence tags from Thellungiella halophila, a new model to study plant salt-tolerance.", PLANT SCIENCE (OXFORD), vol. 166, no. 3, March 2004 (2004-03), pages 609-616, XP002686547, ISSN: 0168-9452 * the whole document *	1-16	

The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 November 2012	Examiner Mundel, Christophe
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)



Application Number

EP 12 17 3345

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

see additional sheet(s)

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 12 17 3345

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-16(partially)

Transgenic plant cell or plant transformed with an expression cassette comprising an isolated polynucleotide encoding a leucine-rich repeat protein wherein overexpression of the polynucleotide results in an increased tolerance to an environmental stress or an increase in plant growth or in yield of the associated products. A polynucleotide having a sequence selected from the group consisting of SEQ ID NO: 5, 55 or 57, or variants thereof. The corresponding polypeptide having a sequence selected from SEQ ID NO: 6, 56 or 58. An expression cassette or recombinant expression vector comprising such a polynucleotide. An host cell transformed with such a polynucleotide, expression cassette or expression vector. A transgenic plant comprising such a polynucleotide, expression cassette, expression vector or host cell. A seed produced by such a transgenic plant.

2. claims: 1-16(partially)

Transgenic plant cell or plant transformed with an expression cassette comprising an isolated polynucleotide encoding a leucine-rich repeat protein wherein overexpression of the polynucleotide results in an increased tolerance to an environmental stress or an increase in plant growth or in yield of the associated products. A polynucleotide having a sequence selected from the group consisting of SEQ ID NO: 25, or variants thereof. The corresponding polypeptide having a sequence selected from SEQ ID NO: 26. An expression cassette or recombinant expression vector comprising such a polynucleotide. An host cell transformed with such a polynucleotide, expression cassette or expression vector. A transgenic plant comprising such a polynucleotide, expression cassette, expression vector or host cell. A seed produced by such a transgenic plant.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 17 3345

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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07-11-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004031072 A1	12-02-2004	NONE	

WO 2005027631 A2	31-03-2005	EP 1705987 A2	04-10-2006
		EP 1708558 A2	11-10-2006
		WO 2005027631 A2	31-03-2005
		WO 2005027632 A2	31-03-2005
